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**A NEW SPECIES OF THE GENUS *EPEOLUS* LATREILLE, 1802  
(HYMENOPTERA, APOIDEA: APIDAE) FROM THE PAMIRS, WITH A  
CHECKLIST OF CENTRAL ASIAN SPECIES**

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**Summary.** *Epeolus rasnitsyni* Astafurova et Proshchalykin, **sp. n.** is described and illustrated from the Pamir Mountains (Gorno-Badakhshan Autonomous Region of Tajikistan). An updated checklist of the ten species of *Epeolus* so far known from Central Asia is provided.

**Key words:** Apiformes, bees, cleptoparasites, taxonomy, fauna, Palearctic region.

**Ю. В. Астафурова, М. Ю. Прощалыкин. Новый вид рода *Epeolus* Latreille, 1802 (Hymenoptera, Apoidea: Apidae) из Памира со списком центральноазиатских видов // Дальневосточный энтомолог. 2021. N 437. С. 10-15.**

**Резюме.** Приводится описание и иллюстрации нового вида пчел с Памира (Горно-Бадахшанская автономная область Таджикистана) – *Epeolus rasnitsyni* Astafurova et Proshchalykin, **sp. n.** Дан список известных к настоящему времени из Центральной Азии 10 видов рода *Epeolus*.

**INTRODUCTION**

Bees of the cleptoparasitic genus *Epeolus* Latreille, 1802 of Central Asia are poorly studied. Only ten species of this genus have been recorded from this territory (Table 1). For comparison, 17 species are known from Europe (Bogusch & Hadrava, 2018), 23 from the Middle East and North Africa (Bogusch, 2021), and nine from neighboring Mongolia (Astafurova & Proshchalykin, 2021b). In anticipation of the future revision of this genus in Central Asia, we describe the new species from the Pamir Mountains (Gorno-Badakhshan Autonomous Region of Tajikistan). Type specimens of the new species are deposited in collection of the Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia) (ZISP). Morphological terminology follows that of Engel (2001) and Michener (2007). Abbreviations F, T, and S are used for flagellomere, metasomal tergum and metasomal sternum respectively. Specimens were studied with an Olympus SZ51 stereomicroscope and photographs taken with a combination of a stereomicroscope (Olympus SZX10) and digital camera (Olympus OM-D). Final images are stacked composites using Helicon Focus 7.7.4. All images were post-processed for contrast and brightness using Adobe Photoshop.

Table 1. Checklist of the *Epeolus* species of Central Asia including distribution by countries.

N	<i>Epeolus</i> species	Country	Published data
1	<i>E. cruciger</i> (Panzer, 1799)	Kazakhstan	Popov, 1954
2	<i>E. laticauda</i> Bischoff, 1930	Tajikistan, Turkmenistan, Uzbekistan	Popov, 1935, 1949, 1967; Levchenko <i>et al.</i> , 2017; Ascher & Pickering, 2021
3	<i>E. mikhaylovi</i> Astafurova et Proshchalykin, 2021	Kyrgyzstan, Tajikistan	Astafurova & Proshchalykin, 2021a
4	<i>E. rasnitsyni</i> sp. n.	Tajikistan	current data
5	<i>E. ruficornis</i> Morawitz, 1875	Tajikistan, Turkmenistan	Morawitz, 1875, 1894; Bischoff, 1930; Ascher & Pickering, 2021
6	<i>E. seraxensis</i> Radoszkowski, 1893	Turkmenistan	Radoszkowski, 1893; Bogusch, 2021
7	<i>E. tarsalis</i> Morawitz, 1874	Kazakhstan	Astafurova & Proshchalykin, 2021a
8	<i>E. transitorius</i> Eversmann, 1852	Kazakhstan, Turkmenistan, Uzbekistan	Bischoff, 1930; Bogusch & Hadrava, 2018; Levchenko <i>et al.</i> , 2017; Ascher & Pickering, 2021
9	<i>E. vinogradovi</i> Popov, 1952	Turkmenistan	Popov, 1952; Ascher & Pickering, 2021
10	<i>E. variegatus</i> (Linnaeus, 1758)	Tajikistan, Turkmenistan, Kyrgyzstan, Uzbekistan	Bischoff, 1930; Levchenko <i>et al.</i> , 2017; Bogusch & Hadrava, 2018

## DESCRIPTION OF NEW SPECIES

### Family Apidae

#### *Epeolus rasnitsyni* Astafurova et Proshchalykin, sp. n.

<http://zoobank.org/NomenclaturalActs/02F044E1-BECD-463C-AABC-76D983476F45>

Figs 1–9

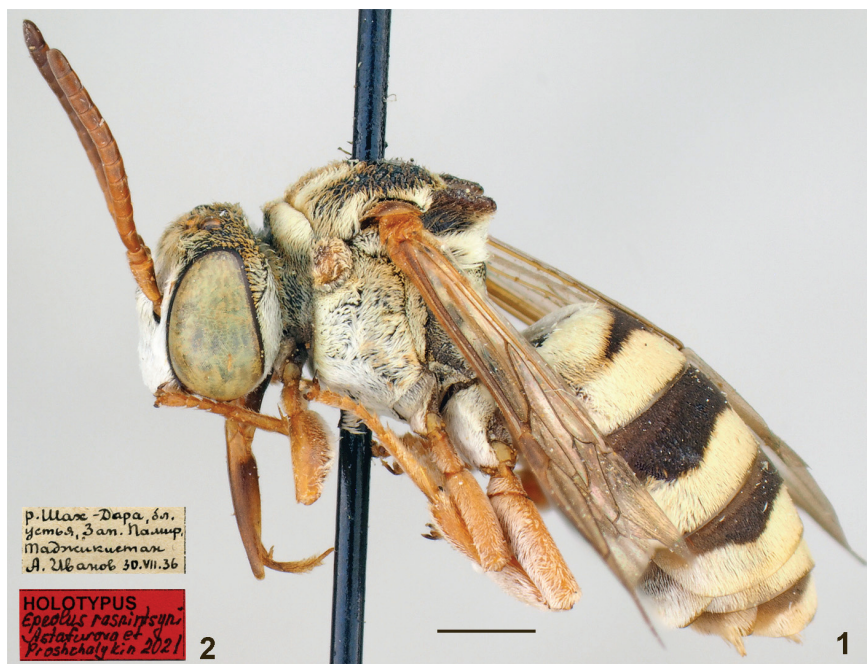
**MATERIAL.** Holotype: ♂, “р.[ека] Шах-Дара, бл.[изъ] устья, Зап.[адный] Памир, Таджикистан, А. Иванов, 30.VII.[19]36” [**Tajikistan:** Gorno-Badakhshan Autonomous Region, the mouth of the Shakh-dara River, 30.VII 1936, leg. A. Ivanov, ZISP, illustrated in Fig. 2]. Paratype: ♂, Tajikistan: Gorno-Badakhshan Autonomous Region, Shakh-dara, 2.VIII 1936, A. Saakyan leg., ZISP.

**DESCRIPTION.** Male. Total body length 8.0 mm; forewing length (without tegula) 6.0 mm.

**Structure and sculpture.** Head (Fig. 3) transverse, ca 1.25 times as wide as long. Labrum (Fig. 6) 1.5 times as wide as long; rounded laterally and flattened basally, with two small subapical teeth, apical margin straight; integument slightly shiny, coarsely and densely punctate (10–30 µm / confluent–1). Frons with developed frontal keel. Frons and vertex areolate

punctate (15–40  $\mu\text{m}$ ). F1 ca 1.3 times as long as wide, F2 and F3 ca 1.1 times as long as wide. Mesoscutum dull, coarsely and areolate punctate (30–60  $\mu\text{m}$ ). Axilla thickened, convex with acute and curved tooth attaining posterior margin of mesoscutellum (Fig. 5). Mesoscutellum with deep medial impression distinctly divided mesoscutellum on two lobes; posterior margin extending over propodeum. Metanotum medially flat. Mesepisternum areolate punctate. Propodeal triangle rugulose; rest vertical part of propodeum smooth. Metasomal integument slightly visible under tomentum; tergal discs shiny and smooth between dense punctures (15–20  $\mu\text{m}$  / 0.5–1.5); marginal zones transparent. Pygidial plate (T7) dull, wide, 0.9 times as long as basal width, rounded apically, with coarse punctures (Fig. 7). Sterna shiny, with dense punctures.

**Coloration.** Head black, but mandible yellow-red with dark apex; labrum and clypeus (apically) and antennae yellow-red. Mesosoma mostly black; pronotal lobe and tegula yellow-reddish; axillae brownish; legs yellowish (including spurs); wings hyaline, stigma and veins light brown to yellow. Tergal discs dark brown; marginal zones pale. Pygidial plate reddish. Visible sterna yellow-brownish with light marginal zones.



Figs 1–2. *Epeolus rasnitsyni* sp. n., male, holotype. 1 – habitus, lateral view; 2 – original labels. Scale bar: 1.0 mm.

**Pubescence.** Face and gena with dense (obscuring integument) whitish tomentum (sparser on frons). Pronotum and metanotum with whitish (holotype) or yellowish (paratype) tomentum obscuring integument. Mesoscutum on anterior half and peripherally with whitish and yellowish tomentum (Fig. 4). Lateral and ventral parts of mesosoma entirely covered with whitish and yellowish tomentum. Legs with dense white pubescence. Tergal marginal zones with uninterrupted yellowish apical tomentum bands; T1 with wide basal band connected



Figs 3–9. *Epeolus rasnitsyni* sp. n., male, holotype. 3 – head, frontal view; 4 – mesosoma, dorsal view; 5 – axilla, dorsal view; 6 – labrum, ventral view; 7 – T7, dorsal view; 8, 9 – metasoma, ventro-lateral (8), dorsal (9) views. Scale bars: 0.5 mm (3, 4, 8, 9); 0.3 mm (5–7).

with apical band laterally; tergal discs with dense light brown adpressed pubescence (Fig. 9). S1–S3 with dense white tomentum; S4 and S5 with dense golden pubescence, apical long setae light-yellow (Fig. 8).

Female. Unknown.

DIAGNOSIS. This species is closest to that of *Epeolus laticauda* Bischoff, 1930, sharing a similar structure, sculpture and pubescence of the body, including the structure of the labrum and patterns of tergal tomentum bands (uninterrupted medially). The new species is clearly distinguished from *E. laticauda* by the strongly convex axillae with long tooth (flattened, with shorter tooth in *E. laticauda*), the deeply emarginate mesoscutellum and the apically rounded pygidial plate (slightly bilobed or straight in *E. laticauda*).

ETYMOLOGY. The species is named after a well-known Russian entomologist Prof. A.P. Rasnitsyn (Paleontological Institute, Russian Academy of Sciences, Moscow, Russia) on the occasion of his 85th birthday.

DISTRIBUTION. Tajikistan (Gorno-Badakhshan Autonomous Region).

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#### REFERENCES

- Ascher, J.S. & Pickering, J. 2021. Discover Life bee species guide and world checklist (Hymenoptera: Apoidea: Anthophila). [http://www.discoverlife.org/mp/20q?guide=Apoidea\\_species](http://www.discoverlife.org/mp/20q?guide=Apoidea_species) [accessed 1 April 2021]
- Astafurova, Yu.V. & Proshchalykin, M.Yu. 2021a. Review of the *Epeolus tarsalis* species group (Hymenoptera: Apidae, *Epeolus* Latreille, 1802), with description of a new species. *Zootaxa*, 5006(1): 26–36. DOI: <https://doi.org/10.11646/zootaxa.5006.1.6>
- Astafurova, Yu.V. & Proshchalykin, M.Yu. 2021b. New and little-known bees of the genus *Epeolus* Latreille, 1802 (Hymenoptera, Apidae, Nomadinae) from Mongolia. *Journal of Hymenoptera Research*, 84: 11–28. DOI: <https://doi.org/10.3897/jhr.84.67150>
- Bischoff, H. 1930. Beitrag zur Kenntnis paläarktischer Arten der Gattung *Epeolus*. *Deutsche Entomologische Zeitschrift*, 1930: 1–15. DOI: <https://doi.org/10.1002/mmnd.193019300102>
- Bogusch, P. 2021. The cuckoo bees of the genus *Epeolus* Latreille, 1802 (Hymenoptera, Apidae) from the Middle East and North Africa with descriptions of two new species. *Journal of Hymenoptera Research*, 84: 45–68. DOI: <https://doi.org/10.3897/jhr.84.67049>
- Bogusch, P. & Hadrava, J. 2018. European bees of the genera *Epeolus* Latreille, 1802 and *Triepeolus* Robertson, 1901 (Hymenoptera: Apidae: Nomadinae: Epeolini): taxonomy, identification key, distribution, and ecology. *Zootaxa*, 4437(1): 1–60. DOI: <https://doi.org/10.11646/zootaxa.4437.1.1>
- Engel, M.S. 2001. A monograph of the Baltic amber bees and evolution of the Apoidea (Hymenoptera). *Bulletin of the American Museum of Natural History*, 259: 1–192. DOI: [https://doi.org/10.1206/0003-0090\(2001\)259<0001:AMOTBA>2.0.CO;2](https://doi.org/10.1206/0003-0090(2001)259<0001:AMOTBA>2.0.CO;2)
- Levchenko, T.V., Byvaltsev, A.M. & Proshchalykin, M.Yu. 2017. Family Apidae. In: Lelej, A.S., Proshchalykin, M.Yu. & Loktionov, V.M. (Eds.), *Annotated catalog of the Hymenoptera of Russia. Volume I. Symphyta and Aculeata. Proceedings of the Zoological Institute RAS*, Supplement, 6, 300–332 pp.



- Michener, C.D. (2007) *The Bees of the World* (2nd edn.). Johns Hopkins University Press, Baltimore, 953 pp. [+ 20 pls]
- Morawitz, F.F. 1876. Bees (Mellifera). II. Andrenidae. In: *A travel to Turkestan by the member-founder of the society A.P. Fedtschenko accomplished from the Imperial society of naturalists, anthropologists, and ethnographers on a commission from the general-governor of Turkestan K.P. von Kaufmann*. Issue 13. Vol. II. Zoogeographical Investigations. Pt. V. (Division 7). M. Stanyukevich's Printing house, Moscow, pp. 161–303, 3 pls. [*Proceedings of the Royal Society of Amateurs of Natural History Sciences, Anthropology and Ethnography*, 21(3), in Russian]
- Morawitz, F.F. 1894. Beitrag zur Bienenfauna Turkmeniens. *Horae Societatis Entomologicae Rossicae*, 29(1/2), 1–76.
- Popov, V.B. 1935. Contributions to the bee fauna of Tajikistan (Hymenoptera, Apoidea). *Trudy Tajikskoi Basy Akademii Nauk SSSR*, 5: 351–408. [In Russian]
- Popov, V.B. 1949. Notes on the bee fauna of Tajikistan (Hymenoptera, Apoidea). *Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, 8: 688–699. [In Russian]
- Popov, V.B. 1952. The fauna of bees (Hymenoptera, Apoidea) of south-western Turkmenia and their landscape distribution. *Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, 10: 61–117. [In Russian]
- Popov, V.B. 1954. On the fauna of bees (Hymenoptera, Apoidea) in the southern part of the Western Kazakhstan Province. *Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, 16: 351–373. [In Russian]
- Popov, V.B. 1967. The bees (Hymenoptera, Apoidea) of Middle Asia and their associations with angiosperm plants. *Trudy Zoologicheskogo Instituta Akademii Nauk SSSR*, 38: 11–329. [In Russian]